UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,859	07/31/2001	Shigeoki Kayama	313KA/50252	9469

7590 04/02/2004

CROWELL & MORING, L.L.P.
P.O. Box 14300
Washington, DC 20044-4300

EXAMINER	
SICONOLFI, ROBERT	

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/917,859	KAYAMA ET AL.	
	Examiner	Art Unit	
	Robert A. Siconolfi	3683	M.4

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Amendment filed on 2/4/04 has been received. Information Disclosure Statement filed on 11/18/03 has been received.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al (U. S. Patent no. 5,674,011)

Hoffman et al is the admitted prior art of Figure 7 and is discussed in the specification on pages 6 and 7. This is also the only disclosure in the instant application of the

coupling device, which is claimed in all of the independent claims. Axle unit having an outside end that doesn't rotate, hub 9 with first spline section unnumbered, drive member 2 with second spline section 10 and an inside end forming the housing of the constant velocity joint, coupling member 8, rolling bodies 42, outer race 1, constant velocity joint unnumbered

Hoffman et al does not disclose the clearance angle between the first and second spline section. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the ranges claimed for the clearance angle as such is merely an optimization based on routine experimentation. Optimization based on routine experimentation is only patentable when the range is considered critical or the experimentation produces unexpected results (see MPEP 2144.05 and 716.02).

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prior art figure 8.

Prior art figure 8 is equivalent to figure 5 of the instant application.

Prior art Figure 8 does not disclose the clearance angle between the first and second spline section. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the ranges claimed for the clearance angle as such is merely an optimization based on routine experimentation. Optimization based on routine experimentation is only patentable when the range is considered critical or the experimentation produces unexpected results (see MPEP 2144.05 and 716.02).

Response to Arguments

6. Applicant's arguments filed 2/4/04 have been fully considered but they are not persuasive. Applicants argue that the examiner's statement that the only difference between a clearance fit and an interference fit is the amount of clearance is incorrect. Applicants state that interference fits necessitate the use of special tools. The examiner disagrees. Interference fit, or press fits as they are commonly called, do not always need special tools. Depending on the amount of interference, press fits can often be done by hand.

Applicants also argue unexpected results since the clearance fit does not produce "as much noise as commonly believed". The examiner disagrees with this assessment since there is no clear standard. The spline connection might produced only .1 dB less than what is "commonly believed" and still meet the standard set forth by the applicant. The applicants provide no hard data regarding the noise levels. The only discussion of the noise levels that can be found is on page 23 of the specification.

With regard to the statement about mass market or luxury cars, that was solely in response to the applicants previous arguments. The examiner does not argue that the spline would make the same amount of noise in a mass market or a luxury car but rather the examiner was arguing that what is an acceptable level of noise (which is what the applicants were arguing) varies based on the environment the spline connection is used.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Siconolfi whose telephone number is 703-305-0580. The examiner can normally be reached on M-F 10 am-3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on (703) 308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert A. Siconolfi 3/31/04
Robert A. Siconolfi
Examiner
Art Unit 3683

RS